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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,996	09/12/2003	David R. Llewellyn	7056 FSP	9344
7590	08/27/2004		EXAMINER	
Robert C. Collins Reising, Eithington, Barnes, Kisselle, P.C. P.O. Box 4390 Troy, MI 48099-4390				NGUYEN, THU V
		ART UNIT	PAPER NUMBER	3661
DATE MAILED: 08/27/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/661,996	LLEWELLYN ET AL.	
	Examiner Thu Nguyen	Art Unit 3661	<i>MW</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

1) Responsive to communication(s) filed on 12 September 2003.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

4) Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-14 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>9/12/03</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____ .

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.  
The abstract should be within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
3. Claims 1, 3-5, 7-8, 10-12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips (US 5,307,892).

As per claim 1, 4, Phillips teaches a torque transducer that includes: a first torsion bar 69 (fig.2) and a second stage torsion bar 68 (fig.2) connected in series (col.9, lines 12-16); a torque sensor 100a (fig.2) at the second stage torsion bar for measuring input torque (col.10, lines 12-26). Phillips does not explicitly teach detecting torque as a function of stress in the second torsion bar. However, using a sensor for detecting torque as a function of stress would have been well known. Further, implementing a sensor at a specific section of a torsion device to measure the torque acting on the interested section requires only routine skill in the art. It would have

been obvious to a person of ordinary skill in the art at the time the invention was made to couple a stress sensor to the second torsion bar 68 (fig.2) in order to determine torque acting on the second torsion bar.

As per claim 3, Phillips teaches using sensors 100a and 100b as redundant sensor for detecting failure (col.10, lines 12-21). Further connecting the sensors at appropriate location suitable for determining failure at the location requires only routine skill in the art.

As per claim 5, refer to claim 1 above. Further, Phillips teaches connecting the first and second stages 68, 69 (fig.2) in series to the input of the vehicle steering wheel (col.5, lines 5-9) and the vehicle steering mechanism (col.13, lines 48-64).

As per claim 7-8, 10-12, 14, refer to claims 1, 3-5 above.

4. Claims 2, 6, 9, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips (US 5,307,892) in view of applicant's admitted prior art (AAPA hereinafter).

As per claim 2, 6, 9, 13, AAPA teaches a well known shunt fail-safe mechanism (specification par 0006). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to connect the well known shunt mechanism to the input and the output of the torsion bars 68, 69 (fig.2) of Phillips in order to bypass torque conducted through the torsion bars and to directly connect the input torque to the gear assembly.

Art Unit: 3661

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 305-7687, (for formal communications intended for entry)

**Or:**

(703) 305-7687 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park V, 2451

Crystal Drive, Arlington, VA., Seventh Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The examiner can normally be reached on Monday-Thursday from 8:00 am to 6:00 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black, can be reached on (703) 305-8233. The fax phone number for this Group is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1111.

  
THU V. NGUYEN  
PRIMARY EXAMINER

August 20, 2004